AMENDMENTS TO THE CLAIMS

1.   (Original) A printing system comprising:

a plurality of print heads for printing an image on a print receiving medium;

print head actuators operable for individually repositioning said print heads to optimal locations for each print job; and

software operable while a current print job is active for determining said optimal print head locations for a next anticipated print job.

2.   (Original) The printing system of claim 1 wherein said software supplies said position defining information to said print head actuators prior to the start of a next print job.

3.   (Original) The printing system of claim 2 wherein at least a portion of said position defining information is provided to said print heads while said current print job is active.

4.   (Original) The printing system of claim 1 wherein a print head of said print heads includes ink jet nozzles.

5.   (Original) The printing system of claim 1 wherein a print head of said print heads includes pens.

6.   (Original) The printing system of claim 1 wherein print head actuators each comprise guides defining a locus of operable locations for said print head, each said guides including a lead screw for positioning said associated print head.

7.   (Original) The printing system of claim 1 including a brake mechanism configured to hold a print head of said print heads at a fixed location while an image is printed on the print receiving medium.

8.   (Canceled)

9.   (Canceled)

10.   (Canceled)

11.   (Canceled)

12.   (Canceled)

13.   (Canceled)

14.   (Canceled)

15.   (Canceled)

16.   (Canceled)

17.   (Canceled)

18.   (Original) An apparatus for printing an image onto a print receiving medium comprising:

a plurality of print heads;

means for repositioning each of said print heads from previous printing locations to desired print head locations in accordance with a determined desired print head location for each said print head on a print job by print job basis;

means for determining said desired print head location for a next anticipated print job while a current print job is in process; and

means for enabling said repositioning means immediately upon the conclusion of said current print job.

19.   (Original) The apparatus of claim 18 wherein said determining means includes means for examining a print queue to determine an anticipated next print job.

20.   (Original) The apparatus of claim 18 wherein said repositioning means is enabled for currently non-active ones of said print heads prior to the completion of said current print job.

21.   (Original) The apparatus of claim 18 wherein a print head of said print heads includes ink jet nozzles.

22.   (Original) The apparatus of claim 18 wherein a print head of said print heads includes pens.

23.   (Original) The apparatus of claim 18 wherein said means for repositioning said print heads includes a lead screw which positions a print head of said print heads.

I.   Preliminary Matters

This preliminary amendment is submitted concurrently with the filing of the present application, which is a continuation of co-pending U.S. Patent Application Serial No. 10/284,954.

Claims 8-17 were acknowledged by the Examiner as containing allowable subject matter in the parent application and, therefore, have been canceled herein.

Applicants note that there has been no submission for priority under 35 U.S.C. § 119 (a)–(d) and request clarification of the Examiner's reference to such priority on page 2 of the Office Action dated June 12, 2003 in the parent application (10/284,954) ("June 2003 Office Action").

II.   Previous Rejection under § 103(a) – combination of *Belon* in view of *Kamada*

In the June 2003 Office Action, claims 1-7 and 18-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,155,680 to Belon et al. (hereinafter *Belon*) in view of U.S. Patent No. 5,966,149 to Kamada et al. (hereinafter *Kamada*).

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See MPEP §2143. Without conceding any other criteria, Applicants respectfully assert that the rejection does not satisfy the first and third criteria, and therefore, the claims are patentable under 35 U.S.C. § 103(a).

A.   No Motivation to Combine

In order to establish motivation to combine, the prior art must suggest the desirability of the claimed invention. MPEP §2143.01. However, the Examiner merely states that it would have been obvious to modify the invention of *Belon* by the features of *Kamada* so that print quality is exceeded. (See June 2003 Office Action at 5). The Examiner has presented no evidence in the prior art that suggests that the repositioning of the *Belon* print heads in

light of the teachings of *Kamada* would lead to exceeded print quality. The Examiner relies on the portion of *Kamada* which teaches that the presence of a temperature difference of more than 5.2° C with respect to the non-moveable full-line heads of *Kamada* can result in exceeding the position deviation tolerance resulting in an inability to maintain print quality such that there is a degradation of image quality. (*Kamada*, col. 3, lns 50-55). It is respectfully asserted that operations as described in *Kamada* with respect to non-moveable full-line heads would not have led one of ordinary skill in the art to modify the print heads of *Belon* asserted by the Examiner to be moveable, to meet the present claims. Specifically, reference to a degradation of image quality when thermal deviation is experienced with respect to a non-moveable full-line print head does not provide support for combining the teachings of *Belon* and *Kamada* to provide for positioning of moveable print heads. As such, the Examiner has failed to provide motivation to combine the teachings of *Belon* and *Kamada* as proffered in the June 2003 Office Action in order to meet the deficiencies in the primary reference conceded by the Examiner. Therefore, the rejection under 35 U.S.C. § 103(a) of claims 1-7 and 18-23 should be withdrawn.

B.   Failure to teach or suggest all claim limitations

1.   Independent Claims

Claim 1 requires:

> *...software operable while a current print job is active for*
> *determining said optimal print head locations for a next*
> *anticipated print job*

The combination of *Belon* and *Kamada* fails to teach this limitation. In the June 2003 Office Action, the Examiner admitted that *Belon* does not teach this limitation but stated that *Kamada* discloses this limitation.

Kamada teaches a position deviation adjustment method of a full-line print head output by obtaining temperature data of the print head and inserting dummy data into data that is used for driving printing elements thereby selecting elements for use in printing which are in a desired position. (*Kamada*, col. 4, lns 30-44). However, *Kamada* teaches that the CPU (1) detects the outputs of temperature sensors <u>after</u> each completion of a predetermined operation in the printer. (*Kamada*, col. 5, lns 34-37) Emphasis Added. As such, *Kamada* does not teach determining the optimal print head locations for the next anticipated print job

while a current print job is active as recited in the claim. Thus, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of claim 1 and the claims dependent therefrom be withdrawn.

Claim 18 requires:

> *...means for enabling said repositioning means immediately upon the conclusion of said current print job.*

The combination of *Belon* and *Kamada* fails to teach this limitation. In the June 2003 Office Action, the Examiner admitted that *Belon* does not teach this limitation, but stated that the non-volatile memory, such as an EEPROM used for storing parameters specific to the printer, in *Kamada* discloses the limitation. However, the mere existence and use of an EEPROM to store parameters specific to the printer provides no teaching of "enabling said repositioning means," whether immediately upon the conclusion of the current print job or otherwise. Thus, the cited references fail to teach all the elements of independent claim 18. Therefore, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claim 18 and the claims dependent therefrom be withdrawn.

Claim 18 also requires:

> *...means for determining said desired print head location for a next anticipated print job while a current print job is in process.*

The combination of *Belon* and *Kamada* fails to teach this limitation. The Examiner cites *Belon*, which teaches that paper sensor (202) is positioned to detect whether a print medium is present at the print area, as disclosing this limitation. The paper sensor (202) of *Belon* optically senses the presence or absence of a mechanical flag on the carriage and issues control/ drive signals to the drive motor (102) and brake motor (102). (*Belon*, col. 9, lns 36-49). However, the use of a sensor to detect the presence of a print medium does not teach a means for determining a desired print head location for a next anticipated print job while a current job is in process. Moreover, *Kamada* fails to cure this deficiency. Thus, the cited references fail to teach all the elements of independent claim 18. Therefore, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claim 18 and the claims dependent therefrom be withdrawn.

2. Dependent Claims

Claims 2-7 and 19-23

Claims 2-7 and 19-23 depend directly or indirectly from respective base claims 1 and 18 and thereby inherit all of the limitations of their respective base claims. Accordingly, without conceding that the Examiner's assertions are valid with respect to the limitations of the rejected dependent claims, it is respectfully submitted that the dependent claims are allowable based on their dependency from independent base claims 1 and 18 for at least the reasons discussed above. Thus, Applicants respectfully submit that based on the arguments above, claims 2-7 and 19-23 are patentable under 35 U.S.C. § 103(a).

III. Summary

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant believes no fee is due with this response. However, if a fee is due, please charge Deposit Account No. 08-2025, under Order No. 10012527-2 from which the undersigned is authorized to draw.

I hereby certify that this correspondence is being deposited with the United States Postal Service Express Mail No. EV256034575US addressed to: MS Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
Date of Deposit: September 2, 2003

Typed Name: Rita Carr
Signature:

Respectfully submitted,

By: _____
R. Ross Viguet
Attorney/Agent for Applicant(s)
Reg. No. 42,203

Date: _____

Telephone No. (214) 855-8000